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EXAMINER

PHILPOTT, JUSTIN M

ART UNIT	PAPER NUMBER
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2665

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/738,010

Applicant(s)

GOSSETT ET AL.

Examiner

Justin M. Philpott

Art Unit

2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31-39 and 50-59 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 31-39 and 55-59 is/are allowed.
- 6) ☒ Claim(s) 50-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see pages 11-12, filed April 28, 2005 with respect to claims 31 and 55 have been fully considered and are persuasive. Accordingly, the rejection of claims 31 and 55, as well as their corresponding dependent claims 32-39 and 56-59, has been withdrawn and these claims are allowed for reasons discussed in the following office action.
2. Applicant's arguments, see pages 17-21, filed April 28, 2005 with respect to claims 50-54 have been fully considered but they are not persuasive.

Specifically, regarding claim 50, applicant argues (page 18, first paragraph) that Howe does not teach determining timing constraints of an intermediate network device. However, as discussed in the previous office action, and repeated herein, Howe teaches determining transmission timing constraints of the intermediate network device (e.g., see col. 22, lines 52-60 wherein hardware/software means 32/33/34 inherently determine real-time information from non-real-time information). Thus, applicant's argument is not persuasive.

Additionally, regarding claim 50, applicant argues (page 18, second paragraph) that Gridley does not teach performing unscheduled cut through routing of a communication path probe which is discarded if the routing is not performed directly. However, claim 50 does not recite such a limitation of discarding if the routing is not performed directly. Accordingly, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., discarding a

Art Unit: 2665

communication path probe if the routing is not performed directly) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26

USPQ2d 1057 (Fed. Cir. 1993). Thus, applicant's argument is moot. Further, with respect to unscheduled cut through routing of a communication path probe, as discussed in the previous office action, and repeated herein, Gridley teaches unscheduled pre-emptive cut through routing (e.g., see col. 5, line 17 – col. 6, line 14) and Shimonishi teaches analyzing incoming information (e.g., see col. 1, line 61 – col. 2, line 15 regarding detecting VC and class of incoming packets) and determining if the incoming information has time sensitive characteristics (e.g., see col. 6, lines 27-38 regarding the class identifying a particular priority, wherein priority levels implicitly distinguish time sensitive information from non-time sensitive information) and dropping the incoming information (e.g., discarding the received packet, see col. 2, lines 10-11) with time sensitive characteristics if the switching circuit cannot output the information within specified timing constraints according to the time sensitive characteristics (e.g., if the calculated value for the identified priority class is smaller than the decision threshold; see also col. 2, lines 59-66 regarding discarding according to delivery time value F and decision threshold). Thus, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Accordingly, applicant's argument is not persuasive.

Finally, with respect to claim 50, applicant argues (page 19, first paragraph) that Shimonishi does not teach dropping information with time sensitive characteristics if an intermediate device is not available for sending the information within specified timing constraints. However, as discussed in the previous office action, and repeated herein, Shimonishi teaches analyzing incoming information (e.g., see col. 1, line 61 – col. 2, line 15 regarding detecting VC and class of incoming packets) and determining if the incoming information has time sensitive characteristics (e.g., see col. 6, lines 27-38 regarding the class identifying a particular priority, wherein priority levels implicitly distinguish time sensitive information from non-time sensitive information) and dropping the incoming information (e.g., discarding the received packet, see col. 2, lines 10-11) with time sensitive characteristics if the switching circuit cannot output the information within specified timing constraints according to the time sensitive characteristics (e.g., if the calculated value for the identified priority class is smaller than the decision threshold; see also col. 2, lines 59-66 regarding discarding according to delivery time value F and decision threshold). Thus, applicant's argument is not persuasive.

Regarding claim 51, applicant argues (page 19, second paragraph), generally, that Howe does not teach a path probe update includes information utilized to establish a communication path from a source to destination. However, as discussed in the previous office action, and repeated herein Howe clearly teaches such a limitation (e.g., see col. 25, lines 1-20 and FIG. 43 wherein the requests establish source to destination communication). Thus, applicant's argument is not persuasive.

Regarding claim 52, applicant argues (page 20, first paragraph) that the request in Howe is not a path probe and update information in Howe is not a path probe update. However, such

general assertions are not persuasive, since Howe clear teaches the broad language of applicant's claim, wherein the broadly recited "path probe" and "path probe update" in applicant's claim are not distinguishable from the teachings of Howe (e.g., see col. 25, lines 12-13 regarding request; col. 25, lines 13-16 regarding accepting of the request; col. 29, lines 30-41 regarding messaging; col. 35, line 57 – col. 36, line 3 regarding update information; and FIG. 9). Thus, applicant's argument is not persuasive.

Regarding claim 53, applicant states (page 20, second paragraph) that Howe does not teach the limitations recited in applicant's claim. However, as discussed in the previous office action, and repeated herein, Howe teaches receiving information intended for a final destination by an intermediate network device (e.g., mid-destination switches, see col. 4, lines 53-65); determining if an intermediate network device (e.g., mid-destination switches) has communicated information along a first path that is included in a second communication path (e.g., one of upstream/downstream paths) for time sensitive information intended for a final destination (e.g., see col. 22, lines 52-60 wherein hardware/software means 32/33/34 inherently determine real-time information from non-real-time information); communicating the information along the first communication path (e.g., see FIG. 9 wherein paths for control messages are bi-directional, indicating messaging in upstream and downstream direction; see also col. 25, lines 1-20 regarding lack of use of store-and-forward packet switching). Thus, applicant's argument is not persuasive.

Regarding claim 54, applicant states (page 20, third paragraph) that Howe does not teach the limitations recited in applicant's claim. However, as discussed in the previous office action, and repeated herein, Howe teaches determining if the switching circuit is busy performing other

Art Unit: 2665

switching operations within specified timing constraints (e.g., see FIG. 43 wherein the call request is accepted or rejected based upon busyness of the switching circuit for a specific time). Further, Shimonishi teaches dropping information which cannot be transmitted by a specific time (e.g., see col. 2, lines 10-11 and lines 59-66). In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Thus, applicant's argument is not persuasive.

Claim Objections

3. Claim 55 is objected to because of the following informalities: "por" (line 7) should be changed to "port". Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 50-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,611,519 to Howe in view of U.S. Patent No. 6,522,656 to Gridley, further in view of U.S. Patent No. 6,173,332 to Shimonishi.

Regarding claim 50, Howe teaches a time sensitive quality of service management method comprising: receiving information by an intermediate network device (e.g., mid-destination switches, see col. 4, lines 53-65); determining transmission timing constraints of the intermediate network device (e.g., see col. 22, lines 52-60 wherein hardware/software means 32/33/34 inherently determine real-time information from non-real-time information); sending the information via cut through routing to downstream devices by the intermediate network device (e.g., see col. 4, lines 8-26 regarding cut-through routing), wherein during the cut through routing a communication path (e.g., see col. 25, lines 12-13 regarding request) is forwarded to downstream channels as soon as the communication path probe is received and analyzed (e.g., see FIG. 9 wherein paths for control messages are bi-directional, indicating messaging in upstream and downstream direction; see also col. 25, lines 1-20 regarding lack of use of store-and-forward packet switching).

However, Howe may not specifically disclose the cut through routing is unscheduled pre-emptive cut through routing, and may not specifically disclose analyzing and dropping information based upon the timing constraints.

As discussed above, Gridley teaches a network management system and, specifically, teaches unscheduled pre-emptive cut through routing (e.g., see col. 5, line 17 – col. 6, line 14). The teachings of Gridley provide advantages of improved packet validity and latency (e.g., see col. 5, line 64 – col. 6, line 14). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the cut through routing teachings of Gridley to the cut through routing method of Howe in order to provide improved packet validity and latency (e.g., see col. 5, line 64 – col. 6, line 14).

However, Howe in view of Gridley may not specifically disclose analyzing and dropping information based upon timing constraints.

Shimonishi also teaches a quality of service management system and, specifically, teaches analyzing incoming information (e.g., see col. 1, line 61 – col. 2, line 15 regarding detecting VC and class of incoming packets) and determining if the incoming information has time sensitive characteristics (e.g., see col. 6, lines 27-38 regarding the class identifying a particular priority, wherein priority levels implicitly distinguish time sensitive information from non-time sensitive information). Further, Shimonishi teaches a processor directs the system to drop the incoming information (e.g., discarding the received packet, see col. 2, lines 10-11) with time sensitive characteristics if the switching circuit cannot output the information within specified timing constraints according to the time sensitive characteristics (e.g., if the calculated value for the identified priority class is smaller than the decision threshold; see also col. 2, lines 59-66 regarding discarding according to delivery time value F and decision threshold). The teachings of Shimonishi provide a network node with maximum utilization of a transmission medium with reduced number of buffer requirements while ensuring minimum bandwidth for each connection (e.g., see col. 1, lines 14-45). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Shimonishi to the system of Howe in view of Gridley in order to provide a network node with maximum utilization of a transmission medium with reduced buffer requirements while ensuring minimum bandwidth for each connection.

Regarding claim 51, Howe teaches the path probe update includes information utilized to establish a communication path from a source to a destination (e.g., see col. 25, lines 1-20 and FIG. 43 wherein the requests establish source to destination communication).

Regarding claim 52, Howe teaches cut through routing of a communication path probe (e.g., see col. 25, lines 12-13 regarding request) and a communication path probe update (e.g., see col. 25, lines 13-16 regarding accepting of the request; see also col. 29, lines 30-41 regarding messaging; and col. 35, line 57 – col. 36, line 3 regarding update information), and upstream forwarding of the communication path probe update (e.g., see FIG. 9 wherein paths for control messages are bi-directional, indicating messaging in upstream and downstream direction).

Regarding claim 53, Howe teaches receiving information intended for a final destination by an intermediate network device (e.g., mid-destination switches, see col. 4, lines 53-65); determining if an intermediate network device (e.g., mid-destination switches) has communicated information along a first path that is included in a second communication path (e.g., one of upstream/downstream paths) for time sensitive information intended for a final destination (e.g., see col. 22, lines 52-60 wherein hardware/software means 32/33/34 inherently determine real-time information from non-real-time information); communicating the information along the first communication path (e.g., see FIG. 9 wherein paths for control messages are bi-directional, indicating messaging in upstream and downstream direction; see also col. 25, lines 1-20 regarding lack of use of store-and-forward packet switching).

Regarding claim 54, Howe teaches determining if the switching circuit is busy performing other switching operations within specified timing constraints (e.g., see FIG. 43 wherein the call request is accepted or rejected based upon busyness of the switching circuit for a

Art Unit: 2665

specific time). Further, Shimonishi teaches dropping information which cannot be transmitted by a specific time (e.g., see col. 2, lines 10-11 and lines 59-66). As discussed above, the teachings of Shimonishi provide a network node with maximum utilization of a transmission medium with reduced number of buffer requirements while ensuring minimum bandwidth for each connection (e.g., see col. 1, lines 14-45). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Shimonishi to the system of Howe in view of Gridley in order to provide a network node with maximum utilization of a transmission medium with reduced buffer requirements while ensuring minimum bandwidth for each connection.

Allowable Subject Matter

6. Claims 31-39 and 55-59 are allowed.

7. The following is an examiner's statement of reasons for allowance: claims 31 and 55 are allowed for reasons argued by applicant in the Remarks (pages 11-12) filed April 28, 2005; and claims 32-39 and 56-59 depend upon claims 31 and 55, respectively, and are therefore allowed for the same reason discussed above regarding claims 31 and 55.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin M. Philpott whose telephone number is 571.272.3162. The examiner can normally be reached on M-F, 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D. Vu can be reached on 571.272.3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2665

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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